NEWS RELEASE:
Spring fish flush under way

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PORTLAND, Ore. – That giant flushing sound is water passing over spillways at Columbia and Snake River dams to help juvenile salmon, called smolts, migrate safely to the sea.

April marks the beginning of the migration season. That's when operators of hydroelectric dams on the Columbia and Snake rivers begin operating the projects to benefit salmon and steelhead that have been listed under the Endangered Species Act. Special operations for listed salmon and steelhead began on the Snake River on April 3, on the mid-Columbia River on April 10 and on the lower Columbia below McNary Dam on April 20. The special operations will continue until Aug. 31, 1998. This time of the year, only flood control has a higher priority.

"These river operations provide increased water velocity for fish. They also provide additional spill at federal dams to divert fish away from turbines. At the same time, federal projects are managed to minimize the harmful effects of spill during very high flows," says Bob Lohn, BPA's fish and wildlife manager.

Flow is the volume of water, measured in thousands of cubic feet per second, moving past a given point. By increasing the velocity or speed of the water, biologists hope migrating smolts will get to the ocean more quickly. Spill is water passed through a spillway at a dam rather than being sent through the turbines. It helps fish get safely past the dam by guiding them away from the turbines.

The ESA, originally passed in 1973, is about preventing plant and wildlife species from becoming extinct in the United States. This law makes the National Marine Fisheries Service responsible for listing ocean migrating fish and developing a recovery plan to save them. The special river operations to help fish are measures requested by NMFS.

There are two ways to increase water velocity in a river. One is to increase the amount of flow in the system, the other is to reduce the cross sectional area of the water's path by lowering the water levels of the reservoirs. It's the difference between sending more water through a six-inch pipe or less water through a garden hose to get the same water velocity.

Although spill is generally thought to be a safe way of passing fish through dams, it too can create problems for fish. "During the spring and early summer of average or better water years," says Lohn,

"there can be so much water coming over the spillway that it traps atmospheric gas (primarily nitrogen) from the air which is then forced into solution (supersaturated). When the total dissolved gas in the water exceeds about 120 percent, there is concern about gas bubble disease which can be harmful or fatal to fish. As a result, BPA, the Corps and the Bureau try to manage the total dissolved gas content to keep it within safe levels."

Unlike 1997, which set a record for total system runoff, 1998 is shaping up to be a below average water year with runoff expected at 84 percent of normal. So, dissolved gas should be less of a problem. In fact, this year system operators will likely have to release additional water from storage reservoirs such as Lake Roosevelt behind Grand Coulee Dam to provide additional flows for steelhead.

In addition to providing increased flow and spill, the Corps of Engineers transports smolts in specially constructed barges. This year about half of all migrating smolts will be barged from Lower Granite Dam on the Snake River and McNary Dam on the Columbia for release below Bonneville Dam.

The net effect of the flow requirement for fish is to reduce the storage capacity of the hydro system available for power operations. This means less water available for power generation in the winter months when the demand for electricity is up and the price tends to rise accordingly. It also means less flexibility for hydro operators to adjust for variations in flow which occur naturally due to changes in precipitation levels and runoff from snowmelt.

In a typical water year, additional flows for fish reduce generation by about 800 average megawatts, worth about $160 million annually.

"Good water year or bad, fish operations is a stretch for river operators and pushes the limits of the federal hydro system," says Lohn, "but if it provides the desired tangible results and helps preserve Northwest salmon for future generations, it’s worth it."

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